

NSF Seeks International Materials Research Collaborations, Part I

The National Science Foundation (NSF) is expanding its efforts to fund collaborations between U.S. materials researchers and their counterparts in other countries. The agency's goal is not only to enhance international cooperation in materials research, but also to help researchers to grow more familiar with their overseas—and other North and South American—counterparts.

Such efforts are bound to aid the progress of materials research in the United States, according to Tom Weber, director of NSF's Division of Materials Research (DMR), who has primary responsibility for the efforts. He said that materials researchers in other countries command greater expertise in some areas than their U.S. counterparts and therefore can help to advance research here. For example, European researchers have far greater access to neutron facilities.

Weber said that NSF's efforts are meant to parallel the extensive international cooperation that has gone on in other disciplines such as astronomy and particle physics. "We're saying that materials research is an international endeavor, and we're attempting to make more available the means of collaborating," he said.

Although NSF's attempts to forge closer ties with materials research activities in other countries have been continuing for nearly six years (the first workshop, for U.S., Mexican, and Canadian researchers, was held in May 1995), only one formal agreement has been completed so far, with the European Community (EC).

Based on the NSF-EC agreement, the agency last year issued its first two calls for proposals for international collaborations. Twelve proposals were submitted during the summer, and about 25 more were received by NSF last fall. Of the first batch, one project was funded, and the second batch is still under review by an NSF group consisting of representatives from the Directorates for Mathematical and Physical Sciences, Engineering, and International Programs.

Discussions are ongoing between NSF and counterpart agencies in several other countries, Weber said, including Argentina, Chile, and Brazil, as well as countries in Africa, Asia, and the Middle East. NSF is "close to closure" with Canada and Mexico (discussions with those two countries were completed at a meeting in Ottawa last December). No agreements have yet been reached with any of the other countries. "It's a long process to get these [efforts] on parallel tracks," he said.

Weber attributes part of the problem to the differences in administrative proce-

dures and traditions among the countries, and in legal issues surrounding intellectual-property rights. For example, he said that NSF's European counterparts were "amazed that we were sending our proposals out for review. In Brussels, the reviewers must come in, such are worries that people might steal ideas and proposals."

Weber said that if delays continue in the agreement process with other countries, NSF might consider inviting U.S. researchers to file proposals unofficially. If approved, NSF would require that researchers guarantee their international colleagues had also been funded by the appropriate counterpart organizations. "This would be a bit simpler than hashing things out with individual agencies," which may have differing deadlines and fiscal-year cycles.

Despite the fact that NSF's efforts in this area have been ongoing since 1995, international collaboration in materials research is still regarded as a fledgling enterprise within the agency. NSF has not yet established a specific budget. Nor is there a program director for international collaborations or guidelines for submitting proposals or funding levels, Weber said. The whole thing is "a learning process so far," he said. As a consequence, some of the proposals received have been somewhat incomplete and unclear. In all cases, NSF has had to request further information. A typical example might involve a proposal to conduct theoretical research that neglects to describe the experimental portion of the project to be undertaken by the author's non-U.S. counterpart. Absent a full description of the project, NSF is likely to reject the proposal although, according to Weber, "it's nothing that we enjoy doing."

The same uncertainty applies to the money involved in NSF's grants for collaborative international research. "Some people have requested as much as \$1 million per year, while other proposals are for \$60,000 or so," Weber said. "It depends on what is needed to conduct the research. Some big center activities may require up to \$2 million per year to allow U.S. scientists to participate. But it's just like a normal research grant; the amounts can vary widely."

Weber cautioned that formal guidelines and other organizational aspects—including dedicated staff and budget—will be installed only if the collaboration idea becomes more popular with the materials research community. The opposite is also true, he said. NSF's efforts could be discontinued. "We're looking to see how much interest there is in this. If there's not enough response, we'll stop doing it."

In the meantime, however, Weber and

other NSF officials are touring the materials research meetings, trying to encourage researchers to submit proposals. "We want to support the best research and the best science," he said. "The only caveat is that the plan must be solid on the other side as well."

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LCC Guide Explains How to Do Business with DOE Labs

The Department of Energy (DOE) Laboratory Coordinating Council (LCC) has prepared a guide to *Doing Business with the Laboratories of the Laboratory Coordinating Council*. The guide was designed to help potential users understand how they can take advantage of the expertise offered by DOE laboratories and facilities. It explains how DOE and the LCC worked to simplify collaborations, address industry suggestions for uniform terms and conditions, and clarify intellectual property issues to make the laboratories more accessible to potential users. The guide also includes a detailed list of each laboratory's areas of expertise and offers examples of successes that illustrate how the new approach works. The guide can be accessed on the LCC Web site at www.oit.doe.gov/LCC/doing_business.shtml. The LCC is interested in receiving feedback on this document and has set up an e-mail address for comments and suggestions: DoingBusiness@nrel.gov. LCC fosters and facilitates collaborative research and development efforts by bringing the expertise and capabilities of 16 DOE national laboratories and facilities to the Industries of the Future.

DOE Seeks R&D Proposals for Bio-Based Products Industry

The U.S. Department of Energy (DOE) seeks research and development proposals for new technologies that enhance economic competitiveness, reduce energy consumption, and reduce environmental impacts in the emerging bio-based products industry. The industry uses crops, trees, and residues to make chemicals and materials such as plastics, paints, and adhesives. The proposal deadline is **March 28, 2001**. DOE anticipates making approximately 3–5 awards with a total estimated DOE funding of up to \$1.5 million per award per year, with a duration of approximately 3–5 years. The proposals will address at least three out of the four key barrier areas: plant sciences, production, processing, and utilization. These were identified in the *Technology Roadmap for Plant/Crop-Based Renewable Resources 2020*, the industry's action plan for the future. For more information, access www.oit.doe.gov or contact Elaine Richardson at richardem@id.doe.gov. □